

CLAIMS:

What is claimed is:

1 1. A wireless communication system that provides wireless service to at
2 least one mobile unit operating within a service area, the wireless communications
3 system comprising:

4 at least one first cell for communicating with at least one mobile unit, the at
5 least one first cell operating on a first carrier frequency, the first carrier frequency
6 including a paging channel and a sync channel; and

7 at least one second cell for communicating with the at least one mobile unit, the
8 at least one second cell operating on a second carrier frequency, the second carrier
9 frequency including a sync channel that directs at least one of the at least one mobile
10 units to tune to the paging channel of the first carrier frequency.

1 2. The system of Claim 1 further comprising at least one base station
2 serving at least one of the at least one first cell and at least one of the at least one
3 second cell.

1 3. The system of Claim 1 further comprising at least one base station
2 capable of operating on the first carrier frequency and on the second carrier frequency,
3 the at least one base station serving at least one of the at least one first cell and at least
4 one of the at least one second cell.

1 4. The system of Claim 1 further comprising at least one first base
2 station serving at least one of the at least one first cell and at least one second base
3 station serving at least one of the at least one second cell.

1 5. The system of Claim 1 further comprising at least one base station
2 controller coupled to at least one first base station serving at least one of the at least
3 one first cell and to at least one second base station serving at least one of the at least
4 one second cell.

1 6. The system of Claim 1 further comprising at least one mobile
2 switching center coupled to at least one base station controller, the at least one base
3 station controller coupled to at least one base station, the at least one base station
4 serving at least one of the at least one first cell and at least one of the at least one
5 second cell.

665721 7. The system of Claim 1 further comprising at least one mobile
2 switching center coupled to at least one base station controller, the at least one base
3 station controller coupled to at least one first base station operating on the first carrier
4 frequency and to a second base station operating on the second carrier frequency.

665721 8. The system of Claim 1, wherein a CDMA_FREQ field of a sync
2 channel message of the sync channel of the second carrier frequency contains the
3 frequency of the paging channel of the first carrier frequency.

1 9. The system of Claim 1, wherein the paging channel of the first carrier
2 frequency includes a Channel List Message in which every paging channel listed
3 therein is a paging channel of the first carrier frequency.

1 10. The system of Claim 1 further comprising a traffic allocation
2 algorithm.

1 11. The system of Claim 1 further comprising Multi-Carrier Traffic
2 Allocation (MCTA).

1 12. The system of Claim 1 wherein the system utilizes code division
2 multiple access (CDMA).

1 13. The system of Claim 1 wherein a Pilot_PN field of a sync channel
2 message of the sync channel of the second carrier frequency contains a Pilot_PN of
3 the first carrier frequency.

1 14. A method of operation of a wireless communications system
2 comprising the steps of:

3 a mobile unit initializing on a first carrier frequency; and
4 transmitting a message to the mobile unit on a sync channel of the first carrier
5 frequency, the message directing the mobile unit to tune to a paging channel of a
6 second carrier frequency.

1 15. The method of Claim 14 wherein the step of initializing is preceded
2 by the mobile unit being powered up.

1 16. The method Claim 14 wherein the step of initializing is preceded by a
2 call release of the mobile unit.

1 17. The method of Claim 14 further comprising the step of, in response to
2 the message directing the mobile unit to tune to the paging channel of the second
3 carrier frequency, tuning the mobile unit to the paging channel of the second carrier
4 frequency.

1 18. The method of Claim 14 further comprising the steps of:
2 in response to the message directing the mobile unit to tune to the paging
3 channel of the second carrier frequency, tuning the mobile unit to the paging channel
4 of the second carrier frequency; and
5 monitoring the paging channel of the second carrier frequency.

1 19. The method of Claim 14 wherein a sync channel message of the sync
2 channel of the first carrier frequency is configured with a CDMA_FREQ field
3 directing the mobile unit to the paging channel of the second carrier frequency.

1 20. The method of Claim 14 wherein the first carrier frequency does not
2 have a paging channel.

1 21. The method of Claim 14 wherein the system utilizes code division
2 multiple access (CDMA).

1 22. The method of Claim 14 wherein a Pilot_PN field of a sync channel
2 message of the sync channel of the first carrier frequency contains a Pilot_PN of the
3 second carrier frequency.

1 23. A method of enhancing the performance of a wireless
2 telecommunications system comprising the steps of:
3 configuring a sync channel of at least one non-primary carrier frequency with a
4 paging channel of at least one primary carrier frequency;
5 configuring the at least one non-primary carrier frequency to not include a
6 paging channel; and
7 configuring a channel list message of the at least one primary carrier frequency
8 with the paging channel of the at least one primary carrier frequency.

1 24. The method of Claim 23 wherein a sync channel message of the sync
2 channel of the non-primary carrier frequency includes a CDMA_FREQ field directing
3 at least one mobile unit to the paging channel of the primary carrier frequency.

1 25. The method of Claim 23 wherein the non-primary carrier frequency
2 does not include a paging channel.

1 26. The method of Claim 23 wherein the system utilizes code division
2 multiple access (CDMA).

1 27. The method of Claim 23 wherein a Pilot_PN field of a sync channel
2 message of the sync channel of the non-primary carrier frequency contains a Pilot_PN
3 of the primary frequency.

1 28. A method of performing an idle-mode handoff in a wireless
2 communication system comprising the steps of:

3 sending a neighbor list message to at least one mobile unit operating on a non-
4 primary carrier frequency in a first cell, the neighbor list message instructing the at
5 least one mobile unit to acquire a sync channel of a second cell, the second cell
6 operating on the non-primary frequency and bordering the first cell;

7 in response to the neighbor list message, the at least one mobile unit acquiring
8 the sync channel of the second cell.

1 29. The method of Claim 28 further comprising the step of using the sync
2 channel of the second cell to direct the at least one mobile unit to a paging channel of
3 at least one primary carrier frequency.

1 30. The method of Claim 28 wherein the second cell does not contain a
2 paging channel.

1 31. The method of Claim 29 wherein the paging channel of the at least
2 one primary carrier frequency includes a Channel List Message in which every paging
3 channel listed therein is a paging channel of the primary carrier frequency.

1 32. The method of Claim 28 wherein a sync channel message of the sync
2 channel of the second cell includes a CDMA_FREQ field with the paging channel of
3 the primary carrier frequency.

1 33. The method of Claim 28 wherein the system utilizes code division
2 multiple access (CDMA).

1 34. The method of Claim 28 wherein the system utilizes a traffic
2 allocation algorithm.

1 35. The method of Claim 28 wherein the system utilizes Multi-Carrier
2 Traffic Allocation (MCTA).

1 36. The method of Claim 29 wherein a Pilot_PN of a sync channel
2 message of the sync channel of the second cell contains a Pilot_PN of the at least one
3 primary carrier frequency.

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